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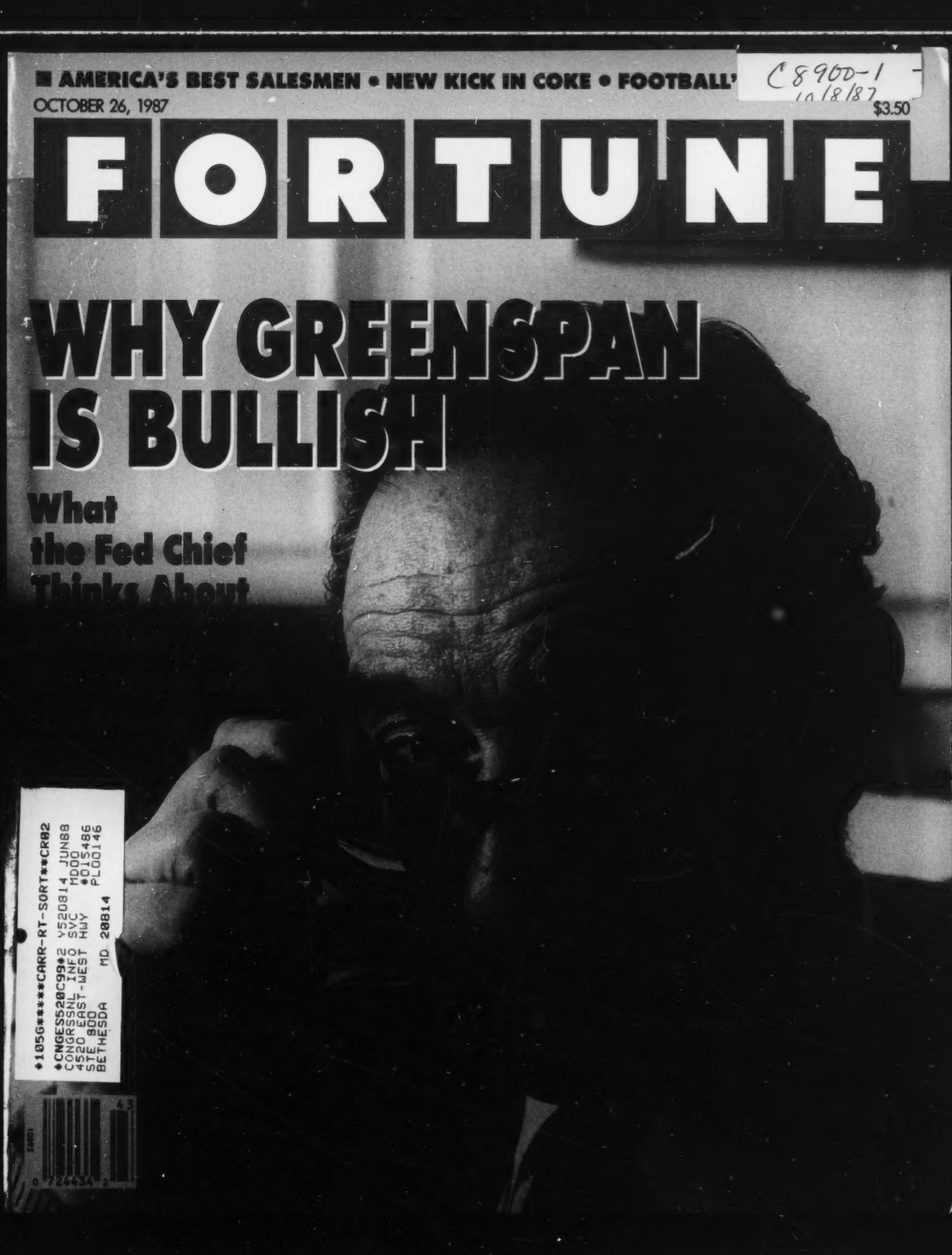
FORTUNE

WHY GREENSPAN IS BULLISH

What the Fed Chief Thinks About



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OCTOBER 26, 1987 VOL. 116, NO. 9

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"What we are seeing is an extraordinarily successful market adjustment to a lot of problems."

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"It's more important that Coke's name is on its best-tasting product than its best-selling product."

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"If you only focus on how to build a big business, you tend to skip those things that will help you in the long run."

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"It's too bad you have to play defense on the field and off."

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"I do love to sell. It's excitin'. It gets into your blood."

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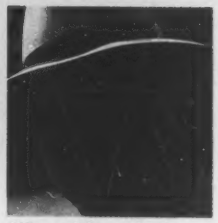

"I'm neither a bull nor a bear. I'm just perplexed. I don't know where *anything* is heading."

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THE EDITOR'S DESK

HE HOLDS what has been called the second most important job in the U.S. His decisions can affect everything from the size of your monthly car payment to the profitability of the bank that gave you the loan. So what does Alan Greenspan, America's top money manager, think about prospects for inflation, recession, the dollar, and the Third World debt? To find out, writer Sylvia Nasar interviewed dozens of the Federal Reserve chairman's closest professional and personal associates and other sources to whom Greenspan has confided his views in detail. Her conclusion: The new Fed chairman is far more bullish about the economy than he usually is thought to be (see page 28). That should come as no surprise to those who know him well. Says Nasar, who has interviewed him several times over the years: "Greenspan is an entrepreneur at heart, and you can't be an entrepreneur unless you are optimistic about growth."

KRISTINE LARSEN

Sylvia Nasar, Greenspan forecaster

The Fed chairman is no stranger to FORTUNE. In the 1950s and 1960s, long before he became famous, he was a frequent contributor to these pages. Working as a research consultant, he analyzed key indicators—from steel inventories and mortgage debt to teenage employment and defense spending. When we decided to launch a ten-part series on the Economy of the 1980s, we began by asking Alan to do a ten-year forecast. During the year that followed, we pestered him constantly. Then as now, Greenspan was a virtuoso at assimilating vast quantities of data and producing prescient insights. He was also unfailingly good-natured.

His approach, says Nasar, is strikingly like the one we use at FORTUNE, which alone among major publications makes comprehensive forecasts from our own model of the U.S. economy. Nasar's reading of the statistics streaming across her desk gives her equal cause for optimism. In our September 14 cover story, which examined the U.S. standard of living, she concluded that most Americans are vastly better off than they were a generation ago.

A member of the Fortune Forecast staff since 1983, Nasar brings some quite remarkable credentials to the job. The daughter of an Uzbek father and a German mother, she was born near Munich, immigrated to the U.S. as a child, lived in Turkey as a teenager, and attended Antioch College in Yellow Springs, Ohio, majoring in literature. She earned her master's degree in economics in 1976 at New York University, where she later worked with Nobel laureate Wassily Leontief in developing a model of the U.S. economy. Although now a journalist, Nasar is wedded to economics in more ways than one: She is married to Darryl McLeod, an economics professor at Fordham University.

Marshall Loeb

MANAGING EDITOR

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A GENTLE WARNING FOR OPTIMISTS

As the Fed chairman says, the economy is still healthy. But consumers are tapped out for now. Some retailers may be in for a less than merry Christmas. ■ *by Vivian Brownstein*

WHILE WE are not as optimistic as Alan Greenspan, FORTUNE concedes that 1987 has been a pretty darned good year—so far. Take the third quarter, for example. The Commerce Department no longer publishes an early "flash" report on economic growth, but according to our own analysis of the available numbers, GNP expanded at nearly a 3% annual rate, a substantially stronger showing than was looked for a few months ago. Here's the catch. Some of the growth was borrowed from the fourth quarter, which will be anemic, pulling the expansion for the year as a whole down to around 2.5%.

All but one major sector contributed to the extra third-quarter strength, the exception being a temporary widening of the trade deficit. But consumers made the biggest difference—and therein lies the potential snag.

The increase in consumer purchases of goods and services hit a 5.5% annual clip in the third quarter, much too fast a pace to last. Outlays for cars and trucks jumped nearly 35% as buyers responded to the latest round of sales incentives. But that doesn't tell the whole story. Spending for other durable goods, such as toys, boats, and even pleasure aircraft spurted, as did clothing purchases and outlays for services. Spending on furniture and household appliances continued to expand, but at a tamer 2% pace.

JOHN S. ABBOTT

Goods need services: *Consumers splurged on cars this summer—and on lube jobs.*

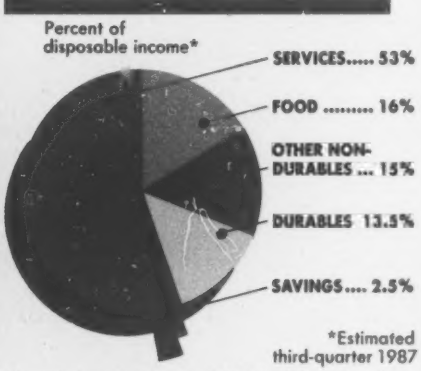
The pie chart at left indicates how income was allocated among broad categories in the third quarter, but the pieces of the pie wouldn't slice up much differently for any recent period. In fact, spending on durable goods accounts for about the same share of income as it did ten, 20, or even 40 years ago, give or take a percentage point or two. Other categories have changed dramatically over time, but the change has been gradual for the most part. For example, consumers devoted 30% of their after-tax income to food four decades ago. Food takes only half that share now. Surprisingly, despite the much talked-about trend toward eating out, consumers spent only 5% of their disposable incomes eating in restaurants, about the same as always.

The only growing segment is services. More than 50% of the consumer dollar is spent on services now, compared with 30% earlier. That share grew fairly slowly for years, but has accelerated during the 1980s. Within services, some 65% of today's spending is on essentials such as medical care, rent, electricity, and other housing costs, an allocation that has stayed fairly constant over the years Interest on consumer installment and bank card debt, which amounts to some 3% of income, is included with services in the chart. The fastest-growing services include legal fees and payments to brokers and investment advisers.

The summer spending spree pulled the savings rate down to 2.5%, the second-lowest on record. Economists remain puzzled about the savings slump that began in 1984 after a long period of stability. In 1985 and 1986 savings averaged 4.5% of disposable income. Before then it came to less than 5% of income only twice, way back in the late 1940s, and it has rarely dropped below 6%.

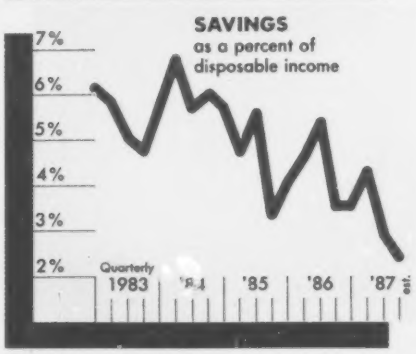
One reason for the recent low rate can be discerned: the combination of a slow growth

WHERE THE MONEY GOES ...



Americans spend astonishingly little on food—even counting dinners out—and an ever-increasing amount on services.

... AND WHERE IT DOESN'T



Confident about the future, consumers have been putting aside less of their incomes. Savings won't go lower, but won't bounce back far.

in income and a buoyant level of consumer confidence. After adjusting for inflation, disposable income is lower now than it was last winter, and probably lower than consumers expected. According to surveys by the Conference Board and Sindlinger & Co., consumers have been growing more optimistic about job and earnings prospects since late spring. As long as they think incomes will pick up, Americans may continue to spend as though they already had the fatter paychecks.

Income from a couple of important sources appears to be accelerating. For one, the rise in interest rates has boosted interest income at a 5% annual rate so far this year. Interest income was declining during most of 1987. And the reversal is occurring while bank credit card rates are still coming down, belatedly. For consumers that adds up to a twofer. More important, wages and salaries seem to be coming out of the doldrums. With unemployment now below 6%, many employees are feeling freer to press for higher pay. Hourly earnings advanced at a 4% annual rate during the summer, twice as fast as in the prior twelve months.

FORTUNE expects real disposable income to advance by a 3% annual rate for the rest of this year, and at a slightly slower 2.7% pace during 1988. Incomes will get a boost from lower tax rates, which go into effect on January 1, but inflation will take a bigger bite out of nominal earnings next year. Still, after a year of stagnation, the new trend is happy news for the average household. Whether or not consumers are in fact cheered depends in part on their expectations—a real factor, though hard to measure. If a disparity between what consumers expect and what they get persists, optimists might still turn into pessimists and spending into saving.

Builders are feeling the pinch from higher interest rates. FORTUNE found them to be a mild bunch of bears, disappointed but not yet growling.

Though continuing to cast a watchful eye as others are doing, FORTUNE thinks savings will stay below old norms for at least another year. Now that sales of domestic cars have returned to their pre-incentive pace of 7 million to 7.5 million units a year from the 8.7 million August rate, savings will bounce back, but not far. The rate will average only 3.2% this year and next. After a breather in the fourth quarter that may mean a gloomy Christmas for some retailers, consumers will come back to the market, increasing spending at a 2.5% annual pace during 1988.

The money spent to buy a house is considered a capital investment and so does not appear on our pie chart of spending. Yet the outlook for an industry that accounts for more than 5% of the nation's GNP is obviously important to any economic forecast. In FORTUNE's semiannual survey we found the homebuilders to be a mild bunch of bears, disappointed but not yet growling.

Builders of single-family houses, feeling the pinch from higher interest rates, expect to start construction on some 7% fewer units during 1988 than they are putting up this year. Six months ago, when mortgages could still be had for under 10%, they expected a rosier picture. Now, despite an uptick in the number of new homes sold during the summer, 40% of the builders surveyed say they have already experienced a weakening in their sales. They also report that sales of existing homes, a broad measure of the industry's health, is softer than six months ago. What's worse, they expect another percentage point increase in mortgage rates next year, on top of the two-point rise that has already occurred.

APARTMENT builders, however, think that they have seen the bottom and are looking up. They expect to construct some 480,000 units next year, about the same as in 1987. Builders in some formerly hot areas, such as Boston, say their market has cooled considerably. But in general they report that vacancy rates in both new and existing apartment houses are lower, although little decline in the national vacancy rate compiled by the Census Bureau has shown up yet.

Builders' expectations for a total of some 1.6 million new housing starts is likely to be close to the mark. They could be too pessimistic about next year's mortgage rates, but only by a smidgen. FORTUNE thinks rates could actually dip a bit before going up again later in 1988.

Still, consumers who already own homes may have less flexibility to trade up to a bigger and better house than they once had, and that could dampen the market for new homes. A new wrinkle that could prove bothersome is the home-equity loan. Since the loans are secured by the value of the home, rates are low. But consumers are pledging the equity in their homes to finance everything from college educations to Caribbean cruises—everything, that is, except more real estate.

Outlays for residential construction, lagging behind the earlier decline in housing starts, have been falling for most of the year. But the drag on overall economic growth from the sag in housing has been milder than feared. If housing starts do no worse than builders expect, the volume of construction spending will level off by early next year.

So where does that leave the outlook for 1988? With a respectful bow to the chairman of the Federal Reserve, we expect only modest growth. We agree with the chairman that neither recession nor ravaging inflation is on the horizon. ■

FORTUNE'S FALL SURVEY OF HOME BUILDERS

	1986 ACTUAL in millions	1987 EST. of units	PERCENT CHANGE	BUILDERS' PROJECTIONS FOR 1988 in millions of units	PERCENT CHANGE (1987-88)
Total housing starts	1.81	1.64	−9.4%	1.56	−4.9%
Single-family homes	1.18	1.16	−1.7%	1.08	−6.9%
Apartment units	.63	.48	−23.8%	0.48	0
Mortgage rate (year-end)	9.3%	11.0%	—	12.0%	—

CHIEF ECONOMIST *Todd May Jr.*
ASSOCIATE ECONOMIST *Vivian Brownstein*
STAFF ECONOMIST *Sylvia Nasar*
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THE LIFE OF A $725,000 SCAB

It takes a special kind of worker to cross a union picket line. Especially one full of 250-pounders. Mark Gastineau, the New York Jets defensive end, is a management's dream. ■ *by Bill Saporito*

A STRIKE is one of the more intense emotional experiences available to an American worker, and Mark Gastineau, defensive end for the New York Jets—a 6-foot 5-inch, 235-pound unit of labor—is starring in the one against the National Football League. As one of the game's premier—and best-paid—pass rushers, he gained notoriety for his "sack dance," a manic bit of high stepping executed near the wreckage of quarterbacks he caught and crumbled. Now Gastineau, superstar, has become Gastineau, superscab.

A name-brand player who crossed the picket line on the strike's first day, Gastineau, 30, attracted more attention than a goal-line fumble. Players on other teams vilified him—"He has an IQ of about room temperature" is how Chicago Bears defensive lineman Dan Hampton delicately put it—and his own teammates, peers now picketers, made no effort to conceal their anger. A contest pitting a bunch of well-compensated, no-neck entertainers against a millionaire boys' club for possession of the nation's fall sporting ritual is hardly the United Auto Workers against General Motors. But it summons up many of the same issues, including the question of what makes one man walk the line and another break ranks with his fellow workers.

As in any strike, the success of this one depends on the ability of the union—the National Football League Players Association—to instill in its members a sense of right, of shared values and goals. To do this the union must make it socially, psychologically, or—especially in this case, perhaps—physically uncomfortable for anyone to desert the pack. For the owners the game is simpler: Divide and conquer. By using strikebreakers they hope to destroy the players' faith in the union's ability to prevail.

ANDREW POPPER

Gastineau, the lone end: *"I'm willing to pay the price."*

A football team is a peculiar kind of labor force. It is organized labor by definition, yet its members are both more and less cohesive than many workers. The importance of the team, something drilled into each player since Pop Warner League, has a powerful hold. Many players spoke out against the strike but didn't want to cross the picket line if it meant losing the respect of their teammates.

OTHER FACTORS pull the workers apart: For one, there is an enormous disparity in wages. Similarly, while the players are striking for the same things—higher minimum salaries, better pensions, and the freedom to shop their talents to the highest bidder—winning would mean vastly different things to different people. Throw in the fact that most players are young, have no previous strike experience, and no strike fund to bolster them in time of need, and a betting man would be tempted to take the owners, giving a six-point spread.

Gastineau, who clashed with his teammates even before the strike, fits the personality profile of a scab. He says his co-workers just don't understand him: "Players have been upset with me before. There are times when they didn't believe things I've stood for. It started with the dance. That was something I did out of emotion. They didn't like it." In the NFL,

where defensive linemen are expected only to grunt and square the ball carrier with the horizon, Gastineau's behavior was considered unlinemanlike. "Mark has always been a flamboyant person who craved the limelight," says Kurt Sohn, the Jets shop steward and wide receiver. "And at times it appears he is more concerned with publicity than playing football."

SINCE GASTINEAU arrived in the league in 1979, he has not been modest about his abilities, nor has he needed to be. Possessing frightening speed on a chassis that is Muscle Beach prime, he makes opposing quarterbacks feel as though they are being pursued by a rock slide. In his first season as a starter, in 1980, he mashed opposing quarterbacks 11½ times (the half means a teammate joined him in the kill). The next year he led the league in sacks with 20; following the strike-shortened 1982 season, he again led the league in 1983. In 1984 he had 22 sacks, an NFL record. His play brought him a $4-million contract ($725,000 a year plus incentives), with a lifestyle to match. Gastineau models for posters, endorses products, and exhibits the kind of flash once associated with a guy named Broadway Joe Namath. He tooled up to practice one day in a $156,000 Rolls-Royce and kept himself warm in an $11,000 fur coat.

REPORTER ASSOCIATE *Edward Prewitt*

A character like that is a cause for worry to any picket captain. "People cross the picket line for a number of reasons," says Lewie Anderson, vice president of the United Food and Commercial Workers Union. "They don't feel loyalty to their co-workers, they don't agree with the aims of the group, or they think they can protect themselves." Anderson thinks the American tradition of rugged individualism reinforces strikebreaking.

In explaining his decision to cross the line, Gastineau said he felt more loyalty to Jets owner Leon Hess than to his teammates. Hess, who moonlights as chairman of Amerada Hess Corp. (oil, natural gas, $4 billion a year in sales), signed Gastineau to his contract in 1984 and, in Gastineau's eyes, cares more about him than do some of the green-and-white shirts. "There have been things said about me in the papers by my teammates, but never by Mr. Hess," says Gastineau. "He visited me in the hospital last year [after knee surgery]. Those things mean a lot to me."

Gastineau claims he is not crossing the picket line for money and announced he would donate the first paycheck he gets during the strike, about $45,000, to the Tomorrow's Children Fund, a charity he heads for cancer-stricken children. But money has to be on his mind. Despite his contract, Gastineau has financial problems, according to his ex-wife. She told a TV interviewer that he was behind in his alimony payments.

Money is a far bigger issue for many of the strikers. The NFL's journeymen, whose minimum pay ranges from $50,000 a year for a rookie to $70,000 for a third-year man, face the same perils any striker does. There are mortgage and car payments to make and mouths to feed at home. And there is an additional problem. Most players are paid on a game-by-game basis, meaning that their personal fiscal year is only 16 weeks long. A player earning $60,000 a year loses almost $4,000 for each game he sits out. Even Tony Dorsett, star running back of the Dallas Cowboys, felt the pressure. He returned to work reluctantly, after nine days, saying he feared he would lose half of his $6 million annuity.

Ironically, Gastineau has probably done more to raise salaries for the Jets than has the union. His big contract, negotiated when the United States Football League was terrorizing NFL owners with player raids, set a benchmark for linemen everywhere. "My contract was first, and everyone else's followed," he says. Although other players knocked his style or ability, he says, "They all wanted Gastineau money."

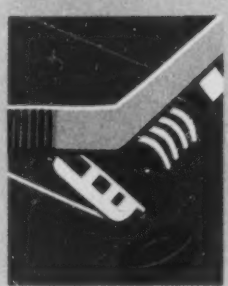
Most players don't get anywhere near it. Although the NFL pays its players an average of $215,000 (see table), 30% of all play-

WHO GETS WHAT IN PRO SPORTS

NFL, 1987
- Average salary: $215,000
- Minimum salary: $50,000
- Top salary: $1,500,000 (John Elway, Denver Broncos)
- Average career: 4.2 years
- Severance: $80,000
- Annual pension at age 55: $9,000

NBA, 1986-87
- Average salary: $445,000
- Minimum salary: $75,000
- Top salary: $2,500,000 (Magic Johnson, Los Angeles Lakers)
- Average career: 4 years
- Severance: $15,000
- Annual pension at age 55: $11,500

BIG LEAGUES, 1987
- Average salary: $410,000
- Minimum salary: $62,500
- Top salary: $2,400,000 (Jim Rice, Boston Red Sox)
- Average career: 6 years
- Annual pension at age 55: $25,128



NHL, 1986-87
- Average salary: $170,000
- Minimum salary: $25,000
- Top salary: $760,000 (Wayne Gretsky, Edmonton Oilers)
- Average career: 4.5 years
- Windfall after 400 games: $250,000
- Pension: $4,000 invested each season played, drawn beginning at age 55

Severance and pension figures are for a player who has completed five seasons.

JOHN HEALY

LOUIS DELUCA—DALLAS TIMES HERALD

Confronting scabs *is a vital function in holding the union's ticket line. That's defensive tackle Kevin Brooks of the Cowboys taunting substitute players as they leave their Dallas training ground.*

ers earn less than $100,000, and 57% earn less than $200,000. The injury rate is 100%. The average career lasts about four years, which means the average player can expect to earn around $850,000 during his time on the field. A middle manager in a FORTUNE 500 company would make that much in 12 to 14 years. But unlike most football players, the middle manager would still have his peak earning years ahead of him.

Even if the union could bring the owners to their knees, the spoils would be distributed disproportionately to the 15% of the players who earn more than $300,000. Free agency, the most salient issue of the walkout (see box), would benefit the best players the most, and many of the nonstars would rather not strike for the right of Miami's Dan Marino, or the next hotshot quarterback, to make an extra million. "I don't think free agency is the big issue," says Calvin Magee, a tight end on the Tampa Bay Buccaneers. "The important issues to me are stuff like the pension plan and severance pay."

Confrontation and intimidation are vital weapons in keeping any strike alive. Oddly, for a profession that thrives on aggression, the football players didn't seem all that interested in picketing. Although strikers pelted scabs with eggs a few times and some fists flew, many teams were not manning the lines day in and day out. "It's damn important to look a scab in the eye and say, 'Do you know what you're doing?' " says Bernie Hostein, who helped coordinate the steelworkers' picketing against USX this year.

The football players' union doesn't have the experience hitting the bricks that the USW does. It has struck or been locked out three times without a victory. Typically when a strike is in the offing, union leaders spread the word to the troops to salt some money away. Often the company, against its will, helps employees out by producing full tilt to build inventories before the walkout. That means the workers bring home checks fattened by overtime.

During the USX stoppage, the union had a strike fund to draw on, arranged for medical insurance, and helped members apply for food stamps. "This may not relate much to a guy losing $50,000 a week," says Hostein, "but it showed the people we were here."

Hostein and other labor leaders have taken a keen interest in this walkout. They know that striking football players get a lot more attention than striking steelworkers. The labor leaders regard the walkout as an ideal opportunity to demonstrate union strength. Representatives from the steelworkers, the United Food and Commercial Workers, and other unions have joined the players on the picket lines. The autoworkers planned to air a radio commercial featuring President Owen Bieber that urged fans to support the union. And the steelworkers' president, Lynn Williams, ordered the union's offices open to all players to better coordinate and communicate their activities.

Keeping the stars from crossing the line was of paramount importance to the union. Unlike a factory, where output per employee is relatively equal, "franchise" players like Walter Payton of the Chicago Bears or Lawrence Taylor of the New York Giants have an outsize impact on the game. Several days into the strike, Ronald Seeber of Cornell University's School of Industrial and Labor Relations, analyzed the situation this way: "The success of the strike depends on 40 or 50 people, the big names. If they come over and play, it will be over."

THE JETS had been picketing every day, but none of the scabs—desperate for a shot at the NFL—seemed too scared. Each day a bus filled with 40-odd newcomers ran a gauntlet of taunting regulars as it entered the Jets' Hempstead, New York, training camp. The bus was guarded by cop cars in a vehicular version of the old flying wedge that afforded the occupants more protection than Jets quarterback Ken O'Brien could ever hope for.

Gastineau tried to avoid his striking teammates, but he scuffled with one Jet who spit at him. The others rode him hard in the press. For them, as for most strikers, the choice was straightforward: You are either for the union or agin' it. And they were for it.

Early in the strike Gastineau expressed hope that his teammates would respect his feelings and "let bygones be bygones." By the fourth day he knew better. "It's too bad you have to play defense on the field and off," he says. But maybe that's the way it has to be when your work consists of 22 men imitating a train wreck. F

WHAT THE TEAMS PAY (1986 AVG.)

Dallas Cowboys	$256,612
New York Jets	$252,699
San Francisco 49ers	$250,133
New York Giants	$248,013
Los Angeles Raiders	$243,636
Kansas City Chiefs	$236,045
San Diego Chargers	$221,532
Seattle Seahawks	$219,863
New England Patriots	$219,860
Cincinnati Bengals	$211,867
Chicago Bears	$209,462
Cleveland Browns	$204,974
Miami Dolphins	$204,830
St. Louis Cardinals	$202,194
Los Angeles Rams	$200,931
New Orleans Saints	$195,992
Atlanta Falcons	$195,595
Washington Redskins	$194,409
Indianapolis Colts	$192,729
Tampa Bay Buccaneers	$185,112
Green Bay Packers	$177,141
Detroit Lions	$174,650
Buffalo Bills	$172,341
Pittsburgh Steelers	$172,020
Minnesota Vikings	$164,440
Philadelphia Eagles	$163,390
Houston Oilers	$162,033
Denver Broncos	$140,120

SOURCE: NATIONAL FOOTBALL LEAGUE PLAYERS ASSOCIATION

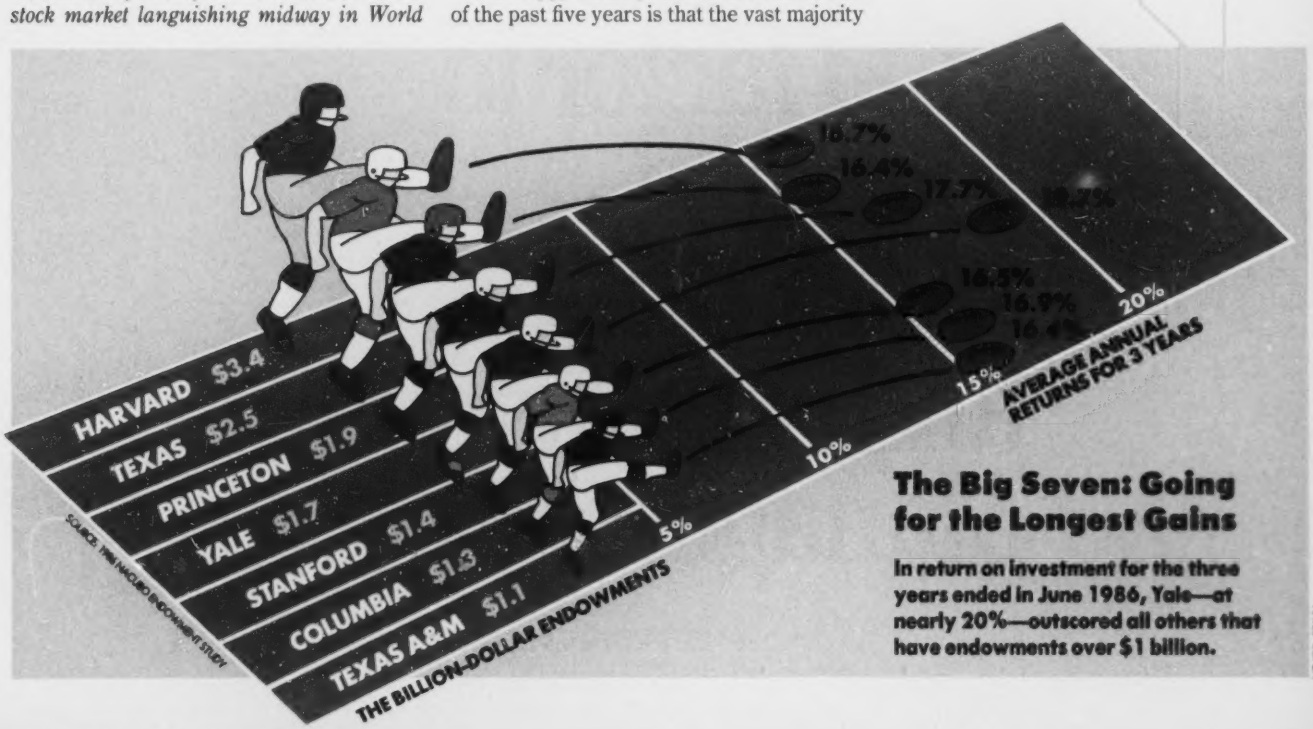
HOW THE RICHEST COLLEGES HANDLE THEIR BILLIONS

Some of the brightest investment pros in the U.S. work with them. Here's a look at how well they perform and what lessons more modest investors can learn. ■ *by Christopher Knowlton*

ONCE UPON A TIME, late in the dizzy bull-market party of the Roaring Twenties, the chairman of Princeton University's investment committee, a banker named Dean Mathey, decided that the level of stock market prices was unsustainable. He quietly moved the university's endowment out of stocks and into bonds. For one full year his decision proved dead wrong. The market waltzed to new highs. Then the Crash hit, and the Depression. Mathey's switch to bonds, a shrewd deflation hedge, was vindicated.

Fourteen years after the Crash, with the stock market languishing midway in World War II, Mathey acted again, selling 80% of the university's bonds and replacing them with common stocks. The chairman of the trustees' finance committee denounced Mathey as reckless and irresponsible, pointing out that the great lesson of the Depression was that bonds were the only prudent and conservative investment for a college endowment fund. Forced to defend what would again prove to be an exquisitely timed maneuver, Mathey wrote in reply: "The only true test of conservatism is to be right in the future."

One happy consequence of the bull market of the past five years is that the vast majority of colleges and universities have been "right in the future." Heavily invested in equities, endowments achieved a median return of 16.6% a year for the five years through June 1986, the most recent year that the National Association of College and University Business Officers (Nacubo) has data for. That fell short of the 19.1% annual rate for Standard & Poor's 500-stock index over the same period, but it came respectably close to the



17.9% median return for institutional investors and professional investment advisers reported by SEI Corp. of Wayne, Pennsylvania. The leader among a 25-college group tracked by Cambridge Associates, an educational consulting firm: Amherst, with a 23% return on average for the past five years.

At the end of fiscal 1986 seven universities could point to endowments totaling over $1 billion. The list was headed by that granddaddy of the Ivies, Harvard, with $3.4 billion. Following, in order, were the University of Texas system, Princeton, Yale, Stanford, Columbia, and the Texas A&M system. By now Harvard has passed the $4-billion mark, and several other well-known colleges have probably joined the billionaires list. Not bad for pools of capital that had their modest origins in land grants or, as in Yale's case, a box of books, a portrait of George I, and a 1718 shipment of goods from the East Indies.

Unhappily for these otherwise fortunate few institutions, faculty, administrators, and parents alike have already put the squeeze on their seemingly lavish financial resources. Besieged by rising costs for salaries and research, loss of federal support, exorbitant tuitions, and a continual need for expensive capital improvements, universities must scramble for ever better returns. While the top schools informally compete to achieve the best performance, the true race is against time and inflation.

IN THIS ARTICLE FORTUNE reports how some of the country's brightest investment professionals go about managing money for some of the country's best colleges, how well they have succeeded, and what lessons they have learned. Both individual investors and trustees of other endowed institutions can profit from their experience, and from examining how they balance the pressing need for income today against the responsibility to husband precious capital for the future. FORTUNE deciphered performance data, reported here for the first time, from coded information in last year's Nacubo endowment study.

Historically, the universities with the most money have led the way in developing methods of portfolio management, in many cases getting into new investment vehicles before other money managers did. Stanford made its first venture capital investments 20 years ago and became a pioneer in high tech. In the late 1970s Harvard took up security lending—loaning securities to brokers who need to cover short sales—and a riskless form of arbitrage. Yale discovered foreign equities early and, 13 years ago, got into LBOs. Says Rodney H. Adams, treasurer of Stanford and dean of the field: "University endowments, as an investing entity, are at the cutting edge of how one might manage one's money."

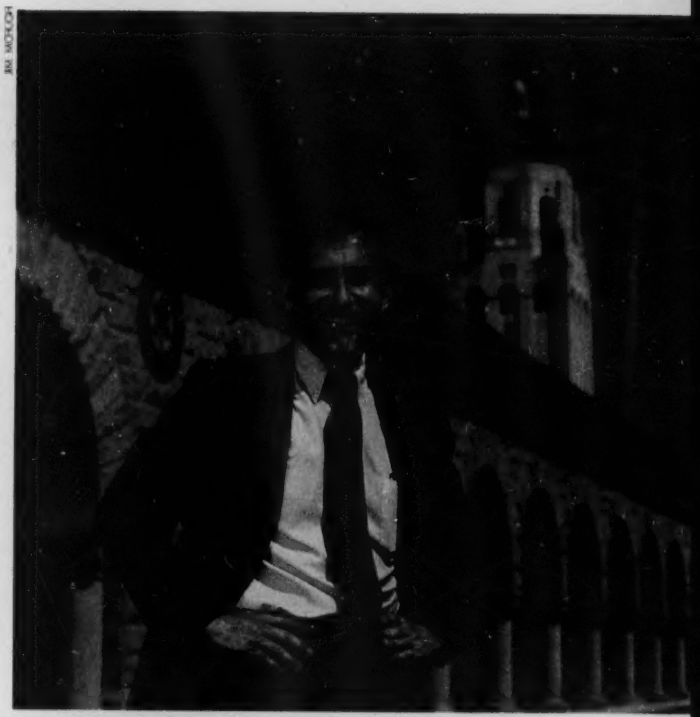
Even so, there have been more than a few semesters when endowments flunked the course. In the 25 years following Princeton's prescient move back into equities, colleges shook off the memory of the Depression and graduated to a strategy that balanced their money cautiously between stocks and bonds. That approach persisted until 1966, when McGeorge Bundy, from his pulpit as president of the Ford Foundation, began to urge a more aggressive investment method for college endowments that focused on total return, defined as the change in market value plus dividends and interest. His recommendations—that endowments take on a heavier equity weighting, emphasize growth stocks over blue chips, and spend principal, if necessary—proved ill-timed. No sooner had colleges loaded up on stocks than the Dow Jones industrial average crashed from 985 in 1968 to 631 in 1970.

Endowment administrators would prefer to forget some other trying times: 1973 and 1974, when stocks dropped again, and the late 1970s and early 1980s, when few endowments kept pace with double-digit inflation and many had to dip deep into principal. Despite these setbacks, the equity-biased total return orientation won out. Norman N. Mintz, a former economics professor who is executive vice president for academic affairs at Columbia, states the prevailing wisdom: "The historical data suggest that equities outperform fixed-income securities over the long term, but equities do that only because there are those moments when equities go through the roof. You may have to sit for long periods of time waiting for that to happen."

Such a Rip van Winkle approach is entirely appropriate for endowments, which have the longest time-horizon of all pools of capital. Unlike pension funds, which have claimants who ultimately must be paid their benefits, endowment funds have no end point at which they must pay out principal. Says Mintz: "The endowment of an institution like this should grow continuously and forever."

To carry out their responsibility for overseeing the endowment, the trustees of a college have two key decisions to make: how to allocate the assets among the available investments and what portion of the total return to spend. The first decision hinges on the types of return desired and the trustees' comfort with risk. The trick with the second is to balance the institution's near-term and long-term needs.

Ideally the trustees aim to earn at least 11% a year long term, paying out 6% to help fund operations and reinvesting the remaining 5% to ensure that the endowment grows faster than inflation. Income from the endowment usually covers anywhere from 5% to 20% of a university's operating expenses. Naturally, everyone wants more. "Colleges just eat up money," says Theodore L. Cross,



STANFORD $1.4 BILLION

The Strategist: Team-spirited Treasurer Rodney Adams, 49, beat the crowd into investments ranging from high-tech venture capital to foreign bonds.

a New York publisher, editor, and money manager who chairs the investment committee at Amherst. Some 80% of a college's costs are labor related (primarily faculty salaries), and colleges are handcuffed when it comes to improving productivity. Fire faculty and you lower the student-to-faculty ratio, a closely watched measure of the quality of education. Nor can you cut faculty salaries, already embarrassingly low. As Mintz of Columbia ruefully observes, "We are trying to attract the best minds in the country, and we are paying them peanuts."

For trustees, investing assets often means walking the social responsibility tightrope. Should the college own stocks of companies with operations in South Africa? Some 20% of the S&P 500 companies do some form of business in South Africa, and trustees worry that excluding those stocks from a portfolio will hurt returns. Campus protests are losing some of their punch as more and more colleges divest and a rising number of U.S. companies leave South Africa.

Once the trustees have set endowment policy, the job of carrying it out falls to the investment manager or the treasurer. He either runs the endowment through an internal staff or distributes it among a group of external managers—banks or, more commonly, private money managers. University investment managers form a loose clique in the endowment world, and frequently share investment opportunities. For example, last spring Yale, Duke, Wellesley, and the University of North Carolina teamed up with Harvard in a gas-drilling partnership in the Gulf of Mexico. (The first two drilling attempts came up dry.)

A favorite device for collaborative efforts is the Common Fund in Fairfield, Connecticut, formed in 1971 with a Ford Foundation grant. The fund gives colleges and schools of all sizes the chance to invest collectively with top money managers they otherwise could not afford, such as Fidelity Management and Capital Guardian Trust. The $2.5-billion fund's results are remarkable. For the ten years ended last June, Common Fund stocks grew an average of 20% a year (vs. 17.1% for the S&P 500) and bonds 10.7% (vs. 10.1% for the Salomon high-grade bond index).

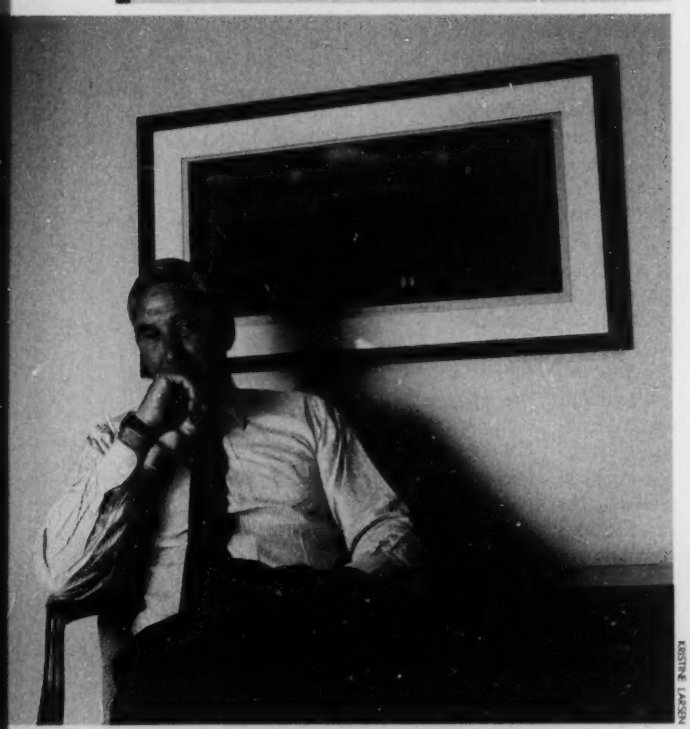
Few institutions can point to better returns. Amherst, with a $314-million endowment supervised by trustee Cross, has achieved its remarkable results largely because of its principal money manager, Grantham Mayo Van Otterloo of Boston. The firm takes a traditional value-oriented approach, hunting for stocks with low ratios of price to earnings and price to book value. Some of the billionaires also deserve honorary degrees in finance. Over the ten years ended in June 1986, Princeton led the seven with a 16.5% average annual gross total return (S&P 500: 14.5%). Yale, second at 14.8% for the decade, nonetheless outperformed Princeton over the past three years, 19.7% to 17.7%. No. 3 for the ten-year period is Stanford, with 14%.

With a ten-year return of 13.7%, Columbia nosed out Harvard for fourth place. Until 1985 Columbia had half its money tied up in the land under Rockefeller Center. The university sold the property to the Rockefeller Group for $400 million, the highest price ever paid for a piece of land. Harvard, despite its reputation for nearly mythical investment prowess, has performed right around the average of the 88 universities that have investment pools of $100 million or more: 13.2% for the ten-year period.

By state law, the endowments of the University of Texas and Texas A&M are lumped together in a single fund, and both depend heavily on the state's oil and gas resources. They have been hurt badly by the slump in energy prices. Nonetheless, their combined endowment returned an average of 16.4% annually over the past three years; comparable ten-year returns are not available. Another sad story in the endowment world is New York University, the largest U.S. private university, with 45,975 students. The trustees, led by CBS chief Laurence Tisch, put the endowment into domestic bonds in 1981 and sat out the greatest stock market rally of the century (see box).

$1.9 BILLION

The Value Investor: Trustee John Beck, 55, chairman of the investment board, bets heavily on equities and spreads his funds among 11 outside money managers.



KRISTINE LARSEN

EACH OF THE BILLIONAIRE universities takes a different approach to running its money. A few, like Harvard, keep all or a portion of the endowment fund in their own custody; others, like Princeton, farm it all out. Money manager John C. Beck of the New York firm of Beck Mack & Oliver chairs Princeton's investment board. A big, rough-hewn man, he has an MBA from Harvard and a passion for racket sports. Although he describes himself as a value investor, Beck looks for outside managers who represent a variety of strategies. "Theories don't make money," he says. "People make money." Princeton credits its success to astute selection of outside money managers—11 of them—and an aggressive policy of putting around 80% of the endowment in equities.

Not all the equity investments have been simple stock picks. In 1961 the Princeton endowment lent Ray Kroc $1 million to buy his first hamburger stands from the McDonald brothers. The loan included an equity "kicker" based on gross receipts. For ten years, every time McDonald's sold a hamburger Princeton got a fraction of a penny. The kicker delivered a field goal, adding $5.4 million to the endowment.

Yale's aggressive equity orientation matches Princeton's, but in New Haven the

NISHA TALISON

YALE $1.7 BILLION

The Economist: Chief investment officer David Swensen, 33, a Ph.D. and a Shearson alumnus, uses theoretical models to help allocate assets.

investment staff manages the bonds in-house—and with considerable success. Last year Yale's bond portfolio returned 5%, beating the Shearson Lehman government-grade bond index by nearly a percentage point. Investment manager David F. Swensen, who has a Ph.D. in economics, favors a quantitative approach: To help make asset allocation decisions, he uses a capital asset pricing model, a sophisticated formula that shows him how juggling the percentages allocated to five different kinds of investments affects expected long-term risk and return.

Stanford relies on outside money managers to run the endowment day to day, but it handles in-house about $600 million in non-endowment operating funds that are invested primarily in short-term instruments. Rod Adams, treasurer and chief investment officer, has a 25-member staff, a number of them self-taught. They include traders, real estate professionals, and one administrator and assistant devoted to managing the university's $50 million of oil, gas, and gold and silver mineral rights in 19 states.

Says Adams: "We probably do more strategic planning, long-range forecasting, and capital facility budgeting than any other institution of higher education in the world." He has made some smart diversifying moves—for example into foreign bonds in January 1985, about a month before the dollar peaked against foreign currencies. Foreign interest rates and the dollar both fell, pushing up bond prices and handing back a total return to date of 120%—staggering for bonds.

Unlike the other billionaires, Harvard runs over 85% of its endowment internally, and finds it cheaper that way. The university spends 0.2% a year on management, vs. a median of twice that for its peers. The president of the Harvard Management Co., the subsidiary of the Harvard Corporation that runs the endowment, is Walter M. Cabot, a scion of the old Boston merchant family. Cabot, a Harvard B.A. and MBA, is a blunt, saturnine man who drawls his a's in the Kennedy fashion and twists a strand of graying hair around his finger as he talks.

He presides over a staff of 115 that occupies three floors at 70 Federal Street in Boston's financial district. The Harvard Management Co., one of the most sophisticated in the business, engages in everything from processing and monitoring gifts to arbitrage and direct placement investments of venture capital. Cabot takes an entrepreneurial approach. "If you've got to find ten different ways to skin a cat, you do it," he says. "Because if you don't, you are going to be left behind."

Yet Harvard's endowment growth has not kept up with its Ivy League rivals'. The disparity results partly from an equity allocation less aggressive than Princeton's or Yale's, and partly perhaps from the endowment's cumbersome size. To compound Harvard's problems, the equity side of the portfolio was whipsawed in the early 1980s and then further hurt by the collapse of oil stocks.

Columbia may have better luck at investing than it does at football, but last year was a year of rebuilding in both fields. Norman Mintz took over the investment team a year after the Rockefeller Center deal, when the university found itself with $400 million to invest and nowhere to put it. He hired Cambridge Associates to help him pick outside money managers. He has divided a $300-million equity core between a value-style manager and one who takes a quantitative approach, using computer programs to help make investment decisions. Another $100 million is in S&P futures, indexed to track the S&P 500. Columbia also puts money into Kohlberg Kravis Roberts leveraged buyouts, most recently Beatrice. Small wonder: Until September Jerome Kohlberg Jr., LL.B. '50, a former partner in KKR, headed the investment committee.

Michael E. Patrick, executive vice chancellor for asset management at the Austin campus of the University of Texas system, oversees the combined UT-Texas A&M Permanent University Fund. Its chief asset is 2.1 million acres of West Texas land that provides oil, gas, and water royalties, grazing fees, and so-called surface income from vineyards and leases for pipelines, power lines, and hunting. Last year the fund's receipts amounted to a record $289 million, surpassing the $263-million high in 1981 when oil prices hit their peak. Forbidden by law to invest fund income in real estate, UT sticks to domestic stocks and bonds. Patrick, too, has distributed a growing portion of the endowment to outside money managers.

COLLEGES LOOK TO outside managers for expertise—say in foreign equities—that they can't develop in-house, and for diversification. The universities with the best investment records have been those that avoid subscribing to a single theory of investing—for example, growth or value—and instead seek out experience and good judgment wherever they can find it. Much of the move toward diversification reflects the difficulty of trying to pick the market's major turning points. Says Mintz of Columbia: "I know of very few great market timers. You always hear about the guy who got out in September of 1929, but there weren't a lot of them."

Diversity not only improves protection against market fluctuations, but also in many cases provides a shot at higher returns. Harvard's arbitrage group, which can make millions on a single transaction, looks for annual returns of 15% to 30%. Yale's leveraged buyout investments averaged an eye-pop-

ping 46.3% a year over the past 13 years. Its venture capital operations returned 33.2% annually from 1977 through 1986.

George F. Keane, president of the Common Fund, strongly advocates diversification into real estate for its better-than-bond returns and as an inflation hedge. He hopes to put together $1 billion over the next two years to launch a Common Fund REIT. Some universities already get gorgeous returns from real estate. Yale bought half the Corning Glass building on Manhattan's Fifth Avenue in 1978 for $15 million; today the investment is valued at over $100 million. Stanford spent $6 million to build a shopping center on the edge of its campus in 1953, and has sunk $30 million more into it. The center wins design awards, brings in sales of $300 per square foot, and returns Stanford 22.3% a year on its investment. It has a book value, minus the land, of $74 million. Seven years ago Harvard leaped at the chance to buy two Washington, D.C., office buildings for $35 million; they have quadrupled in value.

Real estate is only one way to diversify. By tinkering with its state-of-the-art asset allocation model, Yale will be shifting more into foreign equities and venture capital as well. Among its many special-situation investments, Stanford is backing Steve Jobs in Next Inc., the Apple founder's attempt to develop a computer workstation for the higher education market. Princeton capitalized on the insurance background of one trustee to help launch a small reinsurance company called Tiger Partners.

A few universities have tried to circumvent the markets in favor of unorthodox investments. Wesleyan acquired American Education Publications—best known for *My Weekly Reader*—for $8 million in 1949; it held on to the cash cow for 16 years before selling it to Xerox for $64 million in stock. Grinnell, a small college in Iowa, snagged legendary investor Warren E. Buffett as a trustee. In 1976, at Buffett's suggestion, the trustees bought a Dayton TV station for $12.9 million. Three years later they sold it for $50 million.

Financier Theodore Cross hoped to duplicate Buffett's feat when he recommended that Amherst buy two TV stations for its endowment three years ago. The trustees balked, concluding that station ownership was too risky and might be construed by the faculty as a less than benign activity. "If we had made those deals the endowment would be double what it is today," says Cross. "My theory is that it is going to be increasingly difficult to make the endowment grow in conventional ways. So I would support an effort to be bolder, to make an acquisition if it can be sold to the faculty and trustees."

Cross will not be alone exploring special-situation investments and acquisitions. Among the billionaires, Princeton has hush-hush plans to buy depressed Iowa farmland. Harvard has high hopes for its new offshore drilling partnership and a once-troubled oil service company that Cabot and his staff have helped to resuscitate.

The challenge, of course, will be to manage the risks in these speculative ventures. Says Cabot of Harvard's $4-billion endowment: "We can't take this thing to the race track." But he feels that even under "an overall conservative umbrella" he will find attractive investment opportunities. Endowment managers as a class work under conservative umbrellas. A few of those interviewed for this article have used options as part of a hedging strategy, but never to speculate. And junk bonds, while not unheard of in endowment portfolios, remain a rarity.

WHAT IS THE BEST investment strategy for building a billion-dollar endowment? John Beck of Princeton favors the individualistic approach. Says he: "The secret is for institutions to have the guts, courage, wisdom, and luck to find a Dean Mathey or a Ted Cross, then to have people on the investment committee who are wise enough to understand these men and to judge them—and to cut them off at the knees and roll them into the closet if they mess up."

George Keane of the Common Fund sees it differently. "The success of endowment investing," he says, "depends very substantially on having a good investment committee on the board of trustees. Nevertheless, I feel trustees need to rely predominantly on professional investment management and not try to invest the money themselves." With Harvard's method in mind, he adds, "We wouldn't think of having a single manager for a billion dollars." When hiring outside managers, Ted Cross recalls, "Our requirements were that the people we picked should be sharp, bright, fiercely competitive, with what is called a strong need for achievement." Rod Adams prefers small money management firms where the partners have a stake in the business.

Trustees face the same plight as the boy in the D. H. Lawrence story "The Rocking Horse Winner," who hears his house whisper, "There must be more money! Oh-h-h; there must be more money." If investment committees can ignore the whispers from faculty and administrators and keep their focus long term, the odds improve that their irreplaceable endowments will win the race against inflation and survive into perpetuity. Joseph Rosenfield, a Grinnell trustee, cites a favorite example of a long-term investment that paid off. Twenty-two years ago, on reading that Warren Buffett was about to buy a run-down textile company called Berkshire

HARVARD $3.4 BILLION

The Entrepreneur: Walter Cabot, 53, president of Harvard Management Co., and a staff of 115 run more than 85% of the largest college endowment in-house.

KRISTINE LARSEN

Hathaway, Rosenfield bought 300 shares at $15 for the Grinnell endowment. "I saw recently that Berkshire Hathaway shares are selling for around $4,000," says Rosenfield. "If they get to $5,000 a share I might let the college sell one share—but only to cover that initial investment. Then we would own the 299 other shares for free."

Autumn has wrapped itself like a scarf around the campuses. At Yale, Swensen's investment staff quits early one afternoon to challenge the economics department to a game of softball. On the opposite coast Rod Adams at Stanford throws an impromptu ice cream sundae party to celebrate a birthday. The compensation may not compare, but the quality of life for these campus investment staffs is decidedly better than they would find on Wall Street—which is not to suggest that they approach their work any less seriously. On the contrary, many speak of feeling like principals, as though the money they manage were actually their own. And they sport a bright streak of idealism. Says Ted Cross: "Managing a fund of money for a nonprofit purpose is different from making money for your own account or for your children's account. To make money to fund education—why, that is terribly exciting. After all, what could be more important?" F

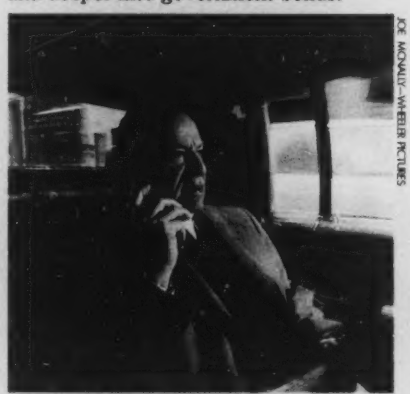
TSK, TSK, LARRY TISCH

■ Few institutions offer a more dramatic lesson in how *not* to run an endowment than New York University. Its star-studded board of trustees is led by CBS Chief Executive Laurence Tisch, an outspoken stock market bear. In late 1981 the trustees decided to take a stab at calling the next sharp turn in the markets by shifting the endowment from a mixture of stocks and bonds almost entirely into domestic bonds. Theirs is the only university in the country with an endowment of over $3 million that owns no stocks whatever. For the past six years the NYU trustees have watched the bull market of a lifetime from the sidelines.

Says a trustee of a rival college: "Tisch is supposed to be a world-class investor, but he screwed up. The last few years have been dreadfully, terribly costly." FORTUNE estimates that had the NYU trustees applied a total return strategy favoring stocks over bonds by 60% to 40%, they could have added another $200 million to the $500-million endowment since 1977, when they first adopted a bond-heavy approach. And that's assuming no better results than the average endowed college earned emphasizing total return.

Larry Tisch loves bonds. Soon after he joined the CBS board in late 1985, with the Dow at 1500, he persuaded the retirement plans committee to sell the $285-million indexed-equity portion of the pension fund and buy government bonds. At both the New York Public Library and the Metropolitan Museum of Art, where he sits on the investment committees, he urged similar stock sell-offs, with mixed success. The library's $164-million endowment is now 60% in bonds and cash. The museum board, with $350 million, began to follow his advice and sell off equities about two years ago, then thought better of it and increased the equity weighting.

The bond boo-boo at NYU began in 1976, when the university sold the C.F. Mueller macaroni company in Jersey City, New Jersey, which it had owned since the 1940s. The trustees put two-thirds of the $115-million proceeds into fixed-income investments—just in time for a bear market in bonds. By the early 1980s NYU had slipped almost completely out of stocks and deeper into government bonds.



JOE MCNALLY—WHEELER PICTURES

New York University's board chairman

The next few years were very good for bonds, and in fact they outperformed the New York Stock Exchange as a whole in 1982 and 1984. Nevertheless, for the ten years ended in June 1986, NYU's return averaged 10.9%, nearly three percentage points below par for the 88 universities with endowments of $100 million or more. Last year NYU's performance ranked 254th among 272 college endowments in a study that the National Association of College and University Business Officers does annually.

"NYU is a paradox," says George Keane of the Common Fund, a highly successful $2.5-billion investment pool for schools and colleges. "They have so much talent on their board and on the investment committee, but they have not been able to do well. One of the problems is that the trustees all get in there and mess around with the endowment." Besides Tisch, the trustees include Lewis T. Preston, chairman of Morgan Guaranty Trust; Walter V. Shipley, chairman of Chemical New York; and Alan C. "Ace" Greenberg, chairman of Bear Stearns.

The trustees invited Greenberg to join the board in October 1983, in part to bring his equity orientation and expertise to discussions of the endowment. But according to George H. Heyman Jr., chairman of the NYU investment committee and an advisory director at Shearson Lehman Brothers, "No one stood up and said we should be in equities." Tisch and Heyman explain that they relied on bonds, primarily Treasuries and Ginnie Maes, because of the need for high yield and the board's aversion to risk. But most universities need high yields, and yet they heed endowment experts who consider such an income strategy shortsighted. The trustees paid a mammoth price for safety.

"I'm a contrarian," says Tisch. Asked if his contrary view hadn't proved costly to the institution, he shrugs, "It may have been." Nevertheless, he says the trustees have no plans to change their tactics: "I am 100% content to be in bonds and short-term instruments."

Deep convictions like Tisch's are as likely to help as to hurt. Thirteen years ago a single trustee at an Ivy League university averted a total stock sell-off by threatening to resign. The board reversed a nearly unanimous decision, and not a share was sold. The stock market rose smartly, adding $250 million to the value of the endowment in two years.